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EXAMINER	
LE, MIRANDA	

ART UNIT	PAPER NUMBER
2167	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/762,918	YEUNG ET AL.	
	Examiner	Art Unit	
	MIRANDA LE	2167	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 March 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-22,29-39 and 46-61* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-22,29-39 and 46-61* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This communication is responsive to Amendment, filed 03/27/08.

Claims 1-22, 29-39 and 46-61 are pending in this application. In the Amendment, claims 50-61 have been added, and claims 1, 29, 32, 36, 46 have been amended. This action is made Final.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claims 32-39, 46-49 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

(a) Claims 32-39 recite "A computer product...", however, the claimed computer products are not limited to embodiments, which include the hardware necessary to enable any underlying functionality to be realized, instead being software per se.

Applicant has amended the claim "by a processor" but it is not sufficient to overcome the 101 issue, thus, it is suggested that the claimed computer product should be read as "A computer product comprising a computer readable storage medium…".

(b) Claims 46-49 recite "A system...", however, the claimed system is not limited to embodiments, which include the hardware necessary to enable any underlying functionality to be realized, instead being software per se.

Although Applicant has amended the claim as "a computer-implemented system", notably, reciting a computer-implemented system in the preamble holds no patentable weight

unless it is suggested in the body of the claim. Therefore, in order to overcome this type of 101 rejection the claim needs to be amended to include physical computer hardware (e.g. processor, memory) to execute the software components (i.e. business process creation, execution and monitoring modules). See MPEP 2106.01.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless:
>
> (e) the invention was described in
>
> (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or
>
> (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 29-31 are rejected under 35 U.S.C. 102(e) as being anticipated by Munoz et al. (US Patent No. 7,149,700).

As per claim 29, Munoz teaches a method for optimizing a business process *(i.e. The invention provides a way of creating a costing model of a business that allows the underlying cost of carrying out a business process to be established, independently of the actual human operators involved in the operation of the process, col. 3, lines 39-44)* involving a task *(i.e. A list of tasks is established for said work process including tasks executed by a human operator. The expected duration of execution of the tasks is established using an operator independent method*

of task time measurement. A cost component of each task as a function of the expected time of execution of said task and the cost per unit time for said human operator is established along with a second cost component of each task dependent on overhead costs of the process, col. 5, lines 1-18), said method comprising:

obtaining data *(i.e. The first five columns of figures show the already calculated respective total hours which should have been required to carry out the activities by each department or practitioner in each practice using the PMTS technique used, and the totals across the whole business, col. 11, line 61 to col. 12, line 9)* regarding a result of a performance of said task *(i.e. the invention allows the capacity of all resources to be compared with the sum of all activities using the resource. This allows the utilization ratio of the resource to be determined. The utilization ratio allows activities to be redirected to underutilized resources, and provides information regarding where additional capacity needs to be added to resources that are acting as bottlenecks to the flow of work through the process, col. 4, lines 15-27)*;

comparing said data *(i.e. A very high ratio implies that work is being hurried, or a backlog of follow-up work is building up, which could imply that standards are low leading to a high risk value as shown. The second ratio in this table is the ratio calculated using restrictive and non restrictive hours discussed above, col. 11, line 61 to col. 12, line 9)* with data associated with a previously created business process *(i.e. The sixth column shows the actual hours worked, calculated from the values already recorded in FIGS. 14 And 15, and from these a utilization ratio can be established, col. 11, line 61 to col. 12, line 9)*; and

automatically determining an optimized business process *(i.e. The invention provides a way of creating a costing model of a business that allows the underlying cost of carrying out a*

business process to be established, independently of the actual human operators involved in the operation of the process, col. 3, lines 39-44) based at least on said comparing *(i.e. As these numbers demonstrate, when the support staff member is dependent on the patient or another input, tasks cannot be organized and accomplished in the most efficient way possible. Since the method described is attempting to get a true picture of the available capability of a department, this must be taken into account or the model will give misleading conclusions, col. 12, lines 10-16)*.

As per claim 30, Munoz teaches the method of claim 29, wherein said data selected form the group of consisting of cost of performing said task, time required to perform said task, and number of persons involved in performing said task *(i.e. A list of tasks is established for said work process including tasks executed by a human operator. The expected duration of execution of the tasks is established using an operator independent method of task time measurement. A cost component of each task as a function of the expected time of execution of said task and the cost per unit time for said human operator is established along with a second cost component of each task dependent on overhead costs of the process, col. 5, lines 1-18)*.

As per claim 31, Munoz teaches the method of claim 29, wherein said automatically determining is performed using a software or a device *(i.e. The invention provides a system for calculating the discrete time and cost for each work activity within a work process. Individual activity costs are then used to create financial models. These financial models can be created for*

an overall business, business lines, operation staffs and support staffs. A library of activity costs can then be used in any business analysis or projection, col. 5, lines 28-34).

6. Claims 1-17, 32-39, 46-61 are rejected under 35 U.S.C. 102(e) as being anticipated by Narasimhan et al. (US Pub No. 20050096962).

As per claim 1, Narasimhan teaches a method for executing a business process, comprising:

obtaining an entity model *(i.e. Workmodel, Workoptimize, Workplan, Worknet, Worktime, Workrelay, See Fig. 1)* representative of an entity *(i.e. Employee Work Pattern Preferences, Employee Qualifications, Employee Shift Preferences, Other Employee Rostering Factors, See Fig. 4)* to which a task associated with said business process can be assigned, wherein said entity comprises information regarding work efficiency of said entity *(i.e. In one embodiment, the methods can include determining worker requirements based on at least one of business rules and business data, optimizing the worker requirements based on shift rules to obtain shift requirements, generating listings of work shifts based on the shift requirements and employee data, assigning tasks to the worker based on the assigned work shift, and, communicating the tasks to the worker via at least one of the network and dispatch devices, [0014])*;

obtaining a work model *(i.e. WorkModel, [0035])* representative of a task *(i.e. assigning tasks to the worker, [0040])* to be assigned to said entity *(i.e. The present disclosure is directed to methods and systems for planning and managing worker and equipment assignments. Data regarding expected events, tasks, timing, and/or other factors and/or activities affecting staffing can be provided to a modeling module. The modeling module can process the input data to*

determine staffing and/or equipment requirements per time period, by worker type, by location, and/or by other staffing/equipment categorizations based on staffing/equipment data for such events, timing, etc., maintained in one or more databases. An optimization module can process the requirements from the modeling module together with business rule data, worker rule data, and/or data based on other rules and/or regulations governing staffing/equipment usage. The optimization module can output and/or provide work and/or shift start and end times, and numbers of workers/equipment per shift to meet the staffing and/or equipment requirements. The "optimization" can be understood to be with respect to one or more schemes that may be a custom scheme or a known scheme. The scheme may be a scheme that can be mathematically expressed, although other schemes can be used, [0030]); and

assigning said task to said entity based on said entity model and said work model to thereby carry out said business process *(i.e. In one embodiment, the methods can include determining worker requirements based on at least one of business rules and business data, optimizing the worker requirements based on shift rules to obtain shift requirements, generating listings of work shifts based on the shift requirements and employee data, assigning tasks to the worker based on the assigned work shift, and, communicating the tasks to the worker via at least one of the network and dispatch devices, [0014]).*

As per claim 32, Narasimhan teaches a computer product having a set of stored instruction, the execution of which by a processor *(i.e. Processor 106 can include one or more processing modules that can be configured to receive and process input data and generate output for use in planning and managing staffing requirements, [0035])* causes a process to be

performed, the process comprising providing an entity template *(i.e. processor 106 can include a modeling module (WorkModel) 110, an optimization module (WorkOptimize) 112, a planning module (WorkPlan) 114, a bidding module (WorkNet) 116, a tasking module (WorkTime) 118, and a relaying module (WorkRelay) 120. The foregoing modules 110-120 can be added, removed, and/or combined by those of skill in the art so as to configure system 100 for planning and management, based on the embodiment. Input and output data for the modules 110-120, in one embodiment, can include that shown in Table 1, [0035])* representative of an entity to which a task associated with a business process can be assigned, wherein said entity template comprises information regarding a work efficiency *(i.e. WorkOptimize, [0035])* of said entity *(i.e. The modules can be in communication with one another such that output data from a module can be input data to one or more of the other modules, [0035])*.

As per claim 36, Narasimhan teaches a computer product having a set of stored instructions *(i.e. Processor 106 can include one or more processing modules that can be configured to receive and process input data and generate output for use in planning and managing staffing requirements, [0035])*, the execution of which by a processor causes a process to be performed, said process comprising providing a user interface *(i.e. processor 106 can include a modeling module (WorkModel) 110, an optimization module (WorkOptimize) 112, a planning module (WorkPlan) 114, a bidding module (WorkNet) 116, a tasking module (WorkTime) 118, and a relaying module (WorkRelay) 120. The foregoing modules 110-120 can be added, removed, and/or combined by those of skill in the art so as to configure system 100 for planning and management, based on the embodiment. Input and output data for the modules*

110-120, in one embodiment, can include that shown in Table 1, [0035]) for allowing a user to create an entity model *(i.e. A planning module can process the optimized shift data with preference data to generate work and equipment rosters. The preference data can include worker preferences, business work policies (e.g., holidays, vacations, etc.), worker equipment qualifications, security constraints, equipment capabilities, equipment maintenance schedules, and other data pertaining to specific workers and/or equipment. The work rosters can be distributed and, using a bidding module, workers can bid on available shifts, trade shifts, and/or otherwise seek to customize their work schedules, [0031])* representative of an entity to which a task associated with a business process can be assigned, wherein said entity model comprises information regarding a work efficiency *(i.e. WorkOptimize, [0035])* of said entity *(i.e. The modules can be in communication with one another such that output data from a module can be input data to one or more of the other modules, [0035]).*

As per claim 46, Narasimhan teaches a computer-implemented system *(i.e. Processor 106 can include one or more processing modules that can be configured to receive and process input data and generate output for use in planning and managing staffing requirements, [0035])* for business process automation and optimization, comprising:

a business process creation module for allowing a user to create an entity model and a business process model that represents a business process *(i.e. processor 106 can include a modeling module (WorkModel) 110, an optimization module (WorkOptimize) 112, a planning module (WorkPlan) 114, a bidding module (WorkNet) 116, a tasking module (WorkTime) 118, and a relaying module (WorkRelay) 120. The foregoing modules 110-120 can be added,*

removed, and/or combined by those of skill in the art so as to configure system 100 for planning and management, based on the embodiment. Input and output data for the modules 110-120, in one embodiment, can include that shown in Table 1, [0035]), said business process model having one or more work steps *(i.e. Modeling processor 202 combines business rules 204 with business data 206, e.g., flight schedules 206a and service goals 206b for passenger-handling and ramp-handling activities, and/or other data, including expected passenger-, baggage-, and cargo-load factors, to generate staffing and/or worker requirements 208, [0036])*, wherein said entity model represents an entity to which a task associated with said business process can be assigned, said entity model comprising information regarding a work efficiency of said entity *(i.e. In one embodiment, the methods can include determining worker requirements based on at least one of business rules and business data, optimizing the worker requirements based on shift rules to obtain shift requirements, generating listings of work shifts based on the shift requirements and employee data, assigning tasks to the worker based on the assigned work shift, and, communicating the tasks to the worker via at least one of the network and dispatch devices, [0014])*; and

a business process execution and monitoring module configured to assign one or more tasks to one or more entities based on said business process model *(i.e. The present disclosure is directed to methods and systems for planning and managing worker and equipment assignments. Data regarding expected events, tasks, timing, and/or other factors and/or activities affecting staffing can be provided to a modeling module. The modeling module can process the input data to determine staffing and/or equipment requirements per time period, by worker type, by location, and/or by other staffing/equipment categorizations based on staffing/equipment data*

for such events, timing, etc., maintained in one or more databases. An optimization module can process the requirements from the modeling module together with business rule data, worker rule data, and/or data based on other rules and/or regulations governing staffing/equipment usage. The optimization module can output and/or provide work and/or shift start and end times, and numbers of workers/equipment per shift to meet the staffing and/or equipment requirements. The "optimization" can be understood to be with respect to one or more schemes that may be a custom scheme or a known scheme. The scheme may be a scheme that can be mathematically expressed, although other schemes can be used, [0030]).

As per claim 50, Narasimhan teaches a method for executing a business process, comprising:

obtaining an entity model *(i.e. Workmodel, Workoptimize, Workplan, Worknet, Worktime, Workrelay, See Fig. 1)* representative of a person to which a task associated with said business process can be assigned *(i.e. In one embodiment, the methods can include determining worker requirements based on at least one of business rules and business data, optimizing the worker requirements based on shift rules to obtain shift requirements, generating listings of work shifts based on the shift requirements and employee data, assigning tasks to the worker based on the assigned work shift, and, communicating the tasks to the worker via at least one of the network and dispatch devices, [0014])*;

obtaining a work model *(i.e. WorkModel, [0035])* representative of task to be assigned to said person *(i.e. Referring also to FIG. 2, there is shown an illustrative block diagram of one WorkModel 110. In general, a modeling processor 202 receives a business model and/or*

business rules 204 defining tasks 204a for flight and non-flight related activities. The rules 204 can be formulated from forecasts 204b, historical data 204c, expert opinions 204d, and/or other staffing model criteria. Modeling processor 202 combines business rules 204 with business data 206, e.g., flight schedules 206a and service goals 206b for passenger-handling and ramp-handling activities, and/or other data, including expected passenger-, baggage-, and cargo-load factors, to generate staffing and/or worker requirements 208, [0036]);

assigning said task to said person based on said entity model and said work model to thereby carry out said business process *(i.e. In one embodiment, the methods can include determining worker requirements based on at least one of business rules and business data, optimizing the worker requirements based on shift rules to obtain shift requirements, generating listings of work shifts based on the shift requirements and employee data, assigning tasks to the worker based on the assigned work shift, and, communicating the tasks to the worker via at least one of the network and dispatch devices, [0014])*;

wherein said act of assigning said task is performed using a processor, which is configured to transmit a message to said person to instruct said person to perform said task *(i.e. In one embodiment, using real-time data regarding events, activities, worker attendance, security monitoring, equipment breakdowns, and the like, the tasking module can process the rosters and the real-time data to generate real-time task assignments and/or real-time adjustments to the rosters. A relaying module can communicate the real-time task assignments and rosters to the workers, work teams, and/or work groups via one or more communications devices, including cell phones, two-way radio, pagers, personal digital assistants (PDA's), personal computers, terminals, and/or other communications devices, [0031]).*

As per claim 53, Narasimhan teaches a method for executing a business process, comprising:

obtaining an entity model *(i.e. Workmodel, Workoptimize, Workplan, Worknet, Worktime, Workrelay, See Fig. 1)* representative of an entity to which a task associated with said business process can be assigned *(i.e. In one embodiment, the methods can include determining worker requirements based on at least one of business rules and business data, optimizing the worker requirements based on shift rules to obtain shift requirements, generating listings of work shifts based on the shift requirements and employee data, assigning tasks to the worker based on the assigned work shift, and, communicating the tasks to the worker via at least one of the network and dispatch devices, [0014])*;

obtaining a work model *(i.e. WorkModel, [0035])* representative of a task to be assigned to said entity *(i.e. Referring also to FIG. 2, there is shown an illustrative block diagram of one WorkModel 110. In general, a modeling processor 202 receives a business model and/or business rules 204 defining tasks 204a for flight and non-flight related activities. The rules 204 can be formulated from forecasts 204b, historical data 204c, expert opinions 204d, and/or other staffing model criteria. Modeling processor 202 combines business rules 204 with business data 206, e.g., flight schedules 206a and service goals 206b for passenger-handling and ramp-handling activities, and/or other data, including expected passenger-, baggage-, and cargo-load factors, to generate staffing and/or worker requirements 208, [0036])*;

assigning said task to said entity based on said entity model and said work model to thereby carry out said business process *(i.e. In one embodiment, the methods can include determining worker requirements based on at least one of business rules and business data,*

optimizing the worker requirements based on shift rules to obtain shift requirements, generating listings of work shifts based on the shift requirements and employee data, assigning tasks to the worker based on the assigned work shift, and, communicating the tasks to the worker via at least one of the network and dispatch devices, [0014]);

receiving information regarding a result of an activity performed by said entity *(i.e. Business rules 204 can be incrementally refined by replacing generalized specifications with specifications for specific cities, specific flights from specific carriers, etc. As WorkZone 100 generates increasingly definitive information regarding staffing requirements, the level of detail for business rules 204 can be increased and the accuracy of WorkModel 110 can be enhanced, which can provide improved operational efficiencies. Referring again to FIG. 1, business rules 204 can be input and/or modified by management 122, which can use historical data 204c to provide the incremental refinements and increasing level of detail previously described, [0037])*; and

processing a change in said business process based on said information *(i.e. Business rules 204 can be incrementally refined by replacing generalized specifications with specifications for specific cities, specific flights from specific carriers, etc. As WorkZone 100 generates increasingly definitive information regarding staffing requirements, the level of detail for business rules 204 can be increased and the accuracy of WorkModel 110 can be enhanced, which can provide improved operational efficiencies. Referring again to FIG. 1, business rules 204 can be input and/or modified by management 122, which can use historical data 204c to provide the incremental refinements and increasing level of detail previously described, [0037])*

As per claim 58, (New) Narasimhan teaches a system for executing a business process, comprising a processor that is configured for:

obtaining an entity model *(i.e. Workmodel, Workoptimize, Workplan, Worknet, Worktime, Workrelay, See Fig. 1)* representative of an entity to which a task associated with said business process can be assigned *(i.e. In one embodiment, the methods can include determining worker requirements based on at least one of business rules and business data, optimizing the worker requirements based on shift rules to obtain shift requirements, generating listings of work shifts based on the shift requirements and employee data, assigning tasks to the worker based on the assigned work shift, and, communicating the tasks to the worker via at least one of the network and dispatch devices, [0014])*;

obtaining a work model *(i.e. WorkModel, [0035])* representative of a task to be assigned to said entity *(i.e. Referring also to FIG. 2, there is shown an illustrative block diagram of one WorkModel 110. In general, a modeling processor 202 receives a business model and/or business rules 204 defining tasks 204a for flight and non-flight related activities. The rules 204 can be formulated from forecasts 204b, historical data 204c, expert opinions 204d, and/or other staffing model criteria. Modeling processor 202 combines business rules 204 with business data 206, e.g., flight schedules 206a and service goals 206b for passenger-handling and ramp-handling activities, and/or other data, including expected passenger-, baggage-, and cargo-load factors, to generate staffing and/or worker requirements 208, [0036])*;

assigning said task to said entity based on said entity model and said work model to thereby carry out said business process *(i.e. In one embodiment, the methods can include determining worker requirements based on at least one of business rules and business data,*

optimizing the worker requirements based on shift rules to obtain shift requirements, generating listings of work shifts based on the shift requirements and employee data, assigning tasks to the worker based on the assigned work shift, and, communicating the tasks to the worker via at least one of the network and dispatch devices, [0014]);

receiving information regarding a result of an activity performed by said entity *(i.e. Business rules 204 can be incrementally refined by replacing generalized specifications with specifications for specific cities, specific flights from specific carriers, etc. As WorkZone 100 generates increasingly definitive information regarding staffing requirements, the level of detail for business rules 204 can be increased and the accuracy of WorkModel 110 can be enhanced, which can provide improved operational efficiencies. Referring again to FIG. 1, business rules 204 can be input and/or modified by management 122, which can use historical data 204c to provide the incremental refinements and increasing level of detail previously described, [0037])*; and

proposing a change in said business process based on said information *(i.e. Business rules 204 can be incrementally refined by replacing generalized specifications with specifications for specific cities, specific flights from specific carriers, etc. As WorkZone 100 generates increasingly definitive information regarding staffing requirements, the level of detail for business rules 204 can be increased and the accuracy of WorkModel 110 can be enhanced, which can provide improved operational efficiencies. Referring again to FIG. 1, business rules 204 can be input and/or modified by management 122, which can use historical data 204c to provide the incremental refinements and increasing level of detail previously described, [0037])*.

As to claims 2, 35, 39, 49, Narasimhan teaches the method of claim 1, wherein said entity is selected form the group consisting of a person, a group of persons, a machine, a device, a software, a company, an association, and a country *(i.e. Eligible Employees 406, See Fig. 4)*.

As to claims 3, 33, 34, 38, 52, 57, Narasimhan teaches the method of claim 1, wherein said entity model is obtained by selecting an entity template from a plurality of available entity templates, each of said plurality of available entity template associated with an entity to which a task can be assigned *(i.e. Workmodel, Workoptimize, Workplan, Worknet, Worktime, Workrelay, See Fig. 1)*.

As per claim 4, Narasimhan teaches the method of claim 1, wherein said entity model is obtained by creating said entity model *(i.e. A planning module can process the optimized shift data with preference data to generate work and equipment rosters. The preference data can include worker preferences, business work policies (e.g., holidays, vacations, etc.), worker equipment qualifications, security constraints, equipment capabilities, equipment maintenance schedules, and other data pertaining to specific workers and/or equipment. The work rosters can be distributed and, using a bidding module, workers can bid on available shifts, trade shifts, and/or otherwise seek to customize their work schedules, [0031])*.

As per claim 5, Narasimhan teaches the method of claim 4, wherein said creating includes generating record, assigning an entity identification to the record, and inputting attribute to the record, said attribute representation of a characteristic of said entity *(i.e. A planning*

module can process the optimized shift data with preference data to generate work and equipment rosters. The preference data can include worker preferences, business work policies (e.g., holidays, vacations, etc.), worker equipment qualifications, security constraints, equipment capabilities, equipment maintenance schedules, and other data pertaining to specific workers and/or equipment. The work rosters can be distributed and, using a bidding module, workers can bid on available shifts, trade shifts, and/or otherwise seek to customize their work schedules, [0031]).

As per claim 6, Narasimhan teaches the method of claim 1, wherein said entity model is obtained by retrieving said entity model from a data base *(i.e. Workmodel, Workoptimize, Workplan, Worknet, Worktime, Workrelay, See Fig. 1).*

As per claim 7, Narasimhan teaches the method of claim 1, wherein said work model is obtained by selecting a task template a plurality of available task template, each of said plurality of task templates associated with a task that can be assigned to an entity *(i.e. Referring also to FIG. 2, there is shown an illustrative block diagram of one WorkModel 110. In general, a modeling processor 202 receives a business model and/or business rules 204 defining tasks 204a for flight and non-flight related activities. The rules 204 can be formulated from forecasts 204b, historical data 204c, expert opinions 204d, and/or other staffing model criteria. Modeling processor 202 combines business rules 204 with business data 206, e.g., flight schedules 206a and service goals 206b for passenger-handling and ramp-handling activities, and/or other data,*

including expected passenger-, baggage-, and cargo-load factors, to generate staffing and/or worker requirements 208, [0036]).

As per claim 8, Narasimhan teaches the method of claim 7, wherein each of the available task templates includes an instruction to perform a task *(i.e. Staffing requirements 208 can reflect various criteria, including locations, worker counts, task start and end times, and types of worker based on job descriptions, worker hierarchy, worker qualifications, certification and/or licenses. FIG. 2 shows an exemplary chart 208a illustrating staffing requirements by time for one type of worker at one location. Other types of charts, graphics, text, reports, etc., can be used in communicating staffing requirements 208, [0036]).*

As to claims 9, 37, Narasimhan teaches the method of claim 1, wherein said work model is obtained by creating said work model *(i.e. Referring also to FIG. 2, there is shown an illustrative block diagram of one WorkModel 110. In general, a modeling processor 202 receives a business model and/or business rules 204 defining tasks 204a for flight and non-flight related activities. The rules 204 can be formulated from forecasts 204b, historical data 204c, expert opinions 204d, and/or other staffing model criteria. Modeling processor 202 combines business rules 204 with business data 206, e.g., flight schedules 206a and service goals 206b for passenger-handling and ramp-handling activities, and/or other data, including expected passenger-, baggage-, and cargo-load factors, to generate staffing and/or worker requirements 208, [0036]).*

As per claim 10, Narasimhan teaches the method of claim 9, wherein said creating comprises inputting *(i.e. Processor 106 can include one or more processing modules that can be configured to receive and process input data and generate output for use in planning and managing staffing requirements, [0035])* one or more tasks to be performing a task *(i.e. Referring also to FIG. 2, there is shown an illustrative block diagram of one WorkModel 110. In general, a modeling processor 202 receives a business model and/or business rules 204 defining tasks 204a for flight and non-flight related activities. The rules 204 can be formulated from forecasts 204b, historical data 204c, expert opinions 204d, and/or other staffing model criteria. Modeling processor 202 combines business rules 204 with business data 206, e.g., flight schedules 206a and service goals 206b for passenger-handling and ramp-handling activities, and/or other data, including expected passenger-, baggage-, and cargo-load factors, to generate staffing and/or worker requirements 208. In one embodiment, modeling processor 202 can include a queuing component 210 to incorporate passenger arrival profiles. Staffing requirements 208 can reflect various criteria, including locations, worker counts, task start and end times, and types of worker based on job descriptions, worker hierarchy, worker qualifications, certification and/or licenses. FIG. 2 shows an exemplary chart 208a illustrating staffing requirements by time for one type of worker at one location. Other types of charts, graphics, text, reports, etc., can be used in communicating staffing requirements 208, [0036])*.

As per claim 11, Narasimhan teaches the method of claim 9, wherein said creating comprises inputting *(i.e. Processor 106 can include one or more processing modules that can be configured to receive and process input data and generate output for use in planning and*

managing staffing requirements, [0035]) an instruction for performing a task *(i.e. Staffing requirements 208 can reflect various criteria, including locations, worker counts, task start and end times, and types of worker based on job descriptions, worker hierarchy, worker qualifications, certification and/or licenses. FIG. 2 shows an exemplary chart 208a illustrating staffing requirements by time for one type of worker at one location. Other types of charts, graphics, text, reports, etc., can be used in communicating staffing requirements 208, [0036]).*

As per claim 12, Narasimhan teaches the method of claim 1, wherein said work model is obtained by retrieving *(i.e. Processor 106 can include one or more processing modules that can be configured to receive and process input data and generate output for use in planning and managing staffing requirements, [0035])* said work model form a database *(i.e. Workmodel, Workoptimize, Workplan, Worknet, Worktime, Workrelay, See Fig. 1).*

As per claim 13, Narasimhan teaches the method of claim 1, further comprising creating a business process model using said entity model and said work model *(i.e. processor 106 can include a modeling module (WorkModel) 110, an optimization module (WorkOptimize) 112, a planning module (WorkPlan) 114, a bidding module (WorkNet) 116, a tasking module (WorkTime) 118, and a relaying module (WorkRelay) 120. The foregoing modules 110-120 can be added, removed, and/or combined by those of skill in the art so as to configure system 100 for planning and management, based on the embodiment. Input and output data for the modules 110-120, in one embodiment, can include that shown in Table 1, [0035]).*

As per claim 14, Narasimhan teaches the method of claim 13, wherein said creating said business process model comprises constructing a flow chart, said flow chart having at least one work step *(i.e. It can thus be understood that in the disclosed embodiments, the illustrated time and attendance devices can be integrated with the methods and systems to monitor and/or permit access to certain areas based on workflow schedules, etc. For example, a time and/or attendance device can be in communication with rules and/or schedule data to ensure that those employees scheduled and/or allowed to be in a particular area and/or premises may be admitted to such premises. The time and/or attendance device can be a microprocessor-based device that can include, for example, a card reader, electronic keypad, wired, and/or wireless device that may otherwise enable and/or control and/or record admission to one or more areas, [0064]).*

As per claim 15, Narasimhan teaches the method of claim 14, wherein said at least one work step represents said task that is to be assigned to said entity *(i.e. It can thus be understood that in the disclosed embodiments, the illustrated time and attendance devices can be integrated with the methods and systems to monitor and/or permit access to certain areas based on workflow schedules, etc. For example, a time and/or attendance device can be in communication with rules and/or schedule data to ensure that those employees scheduled and/or allowed to be in a particular area and/or premises may be admitted to such premises. The time and/or attendance device can be a microprocessor-based device that can include, for example, a card reader, electronic keypad, wired, and/or wireless device that may otherwise enable and/or control and/or record admission to one or more areas, [0064]).*

As per claim 16, Narasimhan teaches the method of claim 1, wherein said assigning is performed by a software or a human *(i.e. In one embodiment, the methods can include determining worker requirements based on at least one of business rules and business data, optimizing the worker requirements based on shift rules to obtain shift requirements, generating listings of work shifts based on the shift requirements and employee data, assigning tasks to the worker based on the assigned work shift, and, communicating the tasks to the worker via at least one of the network and dispatch devices, [0014])*.

As to claims 17, 47, Narasimhan teaches the method of claim 1, further comprising collecting data associated with work performed by said entity *(i.e. Referring also to FIG. 2, there is shown an illustrative block diagram of one WorkModel 110. In general, a modeling processor 202 receives a business model and/or business rules 204 defining tasks 204a for flight and non-flight related activities. The rules 204 can be formulated from forecasts 204b, historical data 204c, expert opinions 204d, and/or other staffing model criteria. Modeling processor 202 combines business rules 204 with business data 206, e.g., flight schedules 206a and service goals 206b for passenger-handling and ramp-handling activities, and/or other data, including expected passenger-, baggage-, and cargo-load factors, to generate staffing and/or worker requirements 208. In one embodiment, modeling processor 202 can include a queuing component 210 to incorporate passenger arrival profiles. Staffing requirements 208 can reflect various criteria, including locations, worker counts, task start and end times, and types of worker based on job descriptions, worker hierarchy, worker qualifications, certification and/or licenses. FIG. 2 shows an exemplary chart 208a illustrating staffing requirements by time for*

one type of worker at one location. Other types of charts, graphics, text, reports, etc., can be used in communicating staffing requirements 208, [0036]).

As per claim 48, Narasimhan teaches the system of claim 46, further comprising a business process simulation module for checking said business process model for errors *(i.e. In an embodiment, the methods can include coordinating the tasks with security requirements, and communicating the tasks to a security system to facilitate access by the workers through security checkpoints controlled by the security system. Also included are determining worker requirements based on at least one of business rules and business data, optimizing (based on a scheme) the worker requirements based on shift rules to obtain shift requirements, and, generating listings of work shifts based on the shift requirements and employee data. Tasks can be re-assigned based on an unavailable worker, [0013]).*

As to claims 51, 54, 59, Narasimhan teaches the method of claim 56, wherein said entity model comprises information regarding a work efficiency of said person *(i.e. Employee Qualifications, See Fig. 4).*

As per claim 55, Narasimhan teaches the method of claim 53, wherein said act of proposing said change is performed by a processor *(i.e. processor 106 can include a modeling module (WorkModel) 110, an optimization module (WorkOptimize) 112, a planning module (WorkPlan) 114, a bidding module (WorkNet) 116, a tasking module (WorkTime) 118, and a relaying module (WorkRelay) 120. The foregoing modules 110-120 can be added, removed,*

and/or combined by those of skill in the art so as to configure system 100 for planning and management, based on the embodiment. Input and output data for the modules 110-120, in one embodiment, can include that shown in Table 1, [0035]).

As per claim 56, Narasimhan teaches the method of claim 53, wherein said act of assigning is performed by a processor, which is configured to transmit a message to said entity to instruct said entity to perform said task *(i.e. processor 106 can include a modeling module (WorkModel) 110, an optimization module (WorkOptimize) 112, a planning module (WorkPlan) 114, a bidding module (WorkNet) 116, a tasking module (WorkTime) 118, and a relaying module (WorkRelay) 120. The foregoing modules 110-120 can be added, removed, and/or combined by those of skill in the art so as to configure system 100 for planning and management, based on the embodiment. Input and output data for the modules 110-120, in one embodiment, can include that shown in Table 1, [0035]).*

As per claim 60, Narasimhan teaches the system of claim 58, wherein said processor is configured for obtaining said entity model by providing a user interface for allowing a user input data regarding said entity *(i.e. Processor 106 can include one or more processing modules that can be configured to receive and process input data and generate output for use in planning and managing staffing requirements, [0035])*

As per claim 61, Narasimhan teaches the system of claim 58, wherein said processor is configured for assigning said task by sending a message to said entity to instruct said entity to

perform said task *(i.e. In one embodiment, using real-time data regarding events, activities, worker attendance, security monitoring, equipment breakdowns, and the like, the tasking module can process the rosters and the real-time data to generate real-time task assignments and/or real-time adjustments to the rosters. A relaying module can communicate the real-time task assignments and rosters to the workers, work teams, and/or work groups via one or more communications devices, including cell phones, two-way radio, pagers, personal digital assistants (PDA's), personal computers, terminals, and/or other communications devices, [0031]).*

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 18, 19, 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Narasimhan et al. (US Pub No. 20050096962), in view of Munoz et al. (US Patent No. 7,149,700).

As per claim 18, Narasimhan does not explicitly teach the method of claim 17, further comprising comparing said data with data associated with a previously created business process.

Munoz teaches this limitation *(i.e. Firstly, the invention allows the capacity of all resources to be compared with the sum of all activities using the resource. This allows the utilization ratio of the resource to be determined. The utilization ratio allows activities to be redirected to underutilized resources, and provides information regarding where additional capacity needs to be added to resources that are acting as bottlenecks to the flow of work through the process. By cross leveling capacity and adding resources, utilization ratios below 100% can be ensured. This improves quality of life and thereby reduces employee turnover. The risk associated with non-compliance with statutory or industry mandates is also reduced by ensuring the work processes and time meet specified requirements, col. 4, lines 15-27).*

It would have been obvious to one of ordinary skill of the art having the teaching of Narasimhan and Munoz at the time the invention was made to modify the system of Narasimhan to include the limitations as taught by Munoz. One of ordinary skill in the art would be motivated to make this combination in order to allow the utilization ratio of the resource to be determined in view of Munoz, as doing so would give the added benefit of allowing the work tasks to be re-distributed to maximize the results or yield of every resource, as taught by Munoz (col. 3, line 51 to col. 4, line 3).

As per claim 19, Munoz teaches the method of claim 18, further comprising optimizing said business process based on said comparing *(i.e. As these numbers demonstrate, when the support staff member is dependent on the patient or another input, tasks cannot be organized and accomplished in the most efficient way possible. Since the method described is attempting to get a true picture of the available capability of a department, this must be taken into account or the model will give misleading conclusions, col. 12, lines 10-16).*

As per claim 22, Munoz teaches the method of claim 19, further comprising adopting said optimized business process as a standard *(i.e. The invention provides a way of creating a costing model of a business that allows the underlying cost of carrying out a business process to be established, independently of the actual human operators involved in the operation of the process, col. 3, lines 39-44).*

9. Claims 20, 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Narasimhan et al. (US Pub No. 20050096962), in view of Munoz et al. (US Patent No. 7,149,700), and further in view of Schulz et al. (US Pub. No. 20040187089).

As per claim 20, Narasimhan, Munoz do not specifically teach the method of claim 19, further comprising creating a business process model using said entity model and said work model, wherein said creating said business process model comprises construction a flow chart having a work step, and said optimizing comprising substituting said work step with a previously created work step.

Schulz teaches this limitation *(i.e. FIG. 12 is an illustration of a specialization operator 1200. More specifically, FIG. 12 illustrates the l-specialization of M, an (m,m) matrix, and N, an*

(n,n) matrix, where the l-specialization is written as Ms(l)N=R, where R is a matrix of size (r, r) with r=m-1+n, such that the m1 column of M and the m1 row of M is replaced with n1, n2, . . . , nn rows and columns of N, [0209]).

It would have been obvious to one of ordinary skill of the art having the teaching of Narasimhan, Munoz and Schulz at the time the invention was made to modify the system of Narasimhan, Munoz to include the limitations as taught by Schulz. One of ordinary skill in the art would be motivated to make this combination in order to modify one or more workflows in view of Schulz ([0185]), as doing so would give the added benefit of providing techniques for quickly, easily, and reliably adding the control flow dependencies between and among the workflow view tasks within the collaborative workflows as taught by Schulz ([0184]).

As per claim 21, Narasimhan, Munoz do not specifically teach the method of claim 19, wherein said optimizing comprises substituting said work model with a previous creating work model.

Schulz teaches this limitation *(i.e. Each partner may then either develop new private workflows, using the method of specialization (discussed in Section II), or re-use existing workflows and connect them with their workflow views through generalization (also discussed in Section II). Once each partner has built their respective workflow views, they may apply the method of expansion (discussed in Section III) on the basis of the coalition workflow definition, in order to add the required synchronizing tasks (e.g., AND-splits and ANDjoins) to their workflow views. These modifications are then propagated back to the view's definition in the private workflow & workflow view repository 416 and 440, [0112]).*

It would have been obvious to one of ordinary skill of the art having the teaching of Narasimhan, Munoz and Schulz at the time the invention was made to modify the system of Narasimhan, Munoz to include the limitations as taught by Schulz. One of ordinary skill in the art would be motivated to make this combination in order to modify one or more workflows in view of Schulz ([0185]), as doing so would give the added benefit of providing techniques for quickly, easily, and reliably adding the control flow dependencies between and among the workflow view tasks within the collaborative workflows as taught by Schulz ([0184]).

Response to Arguments

10. Applicant's arguments with respect to claims 1-22, 29-39 and 46-61 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Miranda Le whose telephone number is (571) 272-4112. The examiner can normally be reached on Monday through Friday from 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John R. Cottingham, can be reached on (571) 272-7079. The fax number to this Art Unit is (571)-273-8300.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (571) 272-2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Miranda Le/

Primary Examiner, Art Unit 2167